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AUTHOR Chen, Shing-jen
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ABSTRACT

The results of a Japanese replication of the vocalic social referencing experiment are discussed in comparison with original findings from the United States. The attempt to replicate failed. It is argued that the lack of success was due to (1) Japanese mothers' attitude toward laboratory situations, an attitude resulting from relative unfamiliarity with such research and, generally, the Japanese attitude toward "the others"; and (2) greater negative effects of separating Japanese infants from their mothers. Exploratory analysis suggested that, in a laboratory situation, a correlation exists between the style of maternal affective expression and infant's mood. It was suggested that cross-cultural study of social interaction should look beyond the circumscribed context and consider the comparability of experimental factors in cultural-contextual perspective. (Author/RH)

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MATERNAL AFFECTIVE EXPRESSION AND INFANT'S MOOD IN A LABORATORY SITUATION : A JAPANESE CASE

Shing-jen Chen
Hokkaido University

The results of a Japanese replication of the vocalic social referencing experiment (conducted by Dr. Marilyn J. Svejda*, in Denver) were discussed in comparison with the original. It was argued that the failure to replicate was due to (1) different attitude of the Japanese mothers towards laboratory situations, resulted from relative unfamiliarity with such research and the Japanese attitude towards "the others" in general, (2) greater negative effects of separation from their mothers in the Japanese infants. Exploratory analysis suggested correlation between the style of maternal affective expression and the infant's mood in a laboratory situation. It was suggested that cross-cultural study of social interaction should look beyond the circumscribed context and consider the comparability of experimental factors in cultural-contextual perspective.

Key words : affective expression, cross-cultural study, emotional communication, laboratory situation, social referencing.

INTRODUCTION

One ultimate objective of cross-cultural mother-infant interaction study is to understand the mechanism involved in the development of the relationship. In recent years, a number of studies using Ainsworth's Strange Situation have improved our understanding of some aspects of the development of attachment in infancy (Bretherton and Waters, 1985 ; Lamb, Thompson, Gardner, and Charnov, 1985). While the Strange Situation serves as a standardized context for cross-cultural comparison, the interpretation of the results involves factors beyond the circumscribed context. Thus, for example, the large number of Type-A infants in Northern Germany was interpreted as related to the view that the value of independence was emphasized there ; or the prevalence of Type-C babies in Japan was said to be related to, among others, the absence of baby sitting by people out-side the household in Japan (Grossmann, Grossmann, Spangler, Suess and Unzner, 1985 ; Miyake, Chen and Campos, 1985). However, no effort has yet been made to systematically examine cultural and contextual factors directly related to inter-personal interaction patterns in the laboratory.

It is believed that observations of the behaviors of the mothers and their infants in similar, but not identical, situations will shed light on the current issue. In this paper, observations of the response of both the mothers and their 11 months old infants in an experimental situation will be reported. These observations will be discussed in compari-

The author would like to thank Mayumi Matsumoto, Chiaki Nakamura, Shohko Satoh and Aoi Tamura for assistance in conducting the experiment. Reprint requests should be sent to Shing-jen Chen, Department of Developmental Psychology, Faculty of Education, Hokkaido University, Sapporo 060, Japan.

* Now at Dept. of Parent Child Nursing, University of Michigan, 1335 Catherine Street, Ann Arbor, Michigan 48109, U.S.A.

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son with what are known to be the case in, for example, the United States.

Specifically, two issues will be discussed : (1) problems in cross-cultural replication of experiments involving mother-infant interaction, and (2) the relationship between maternal style of affective expression and infant's mood.

These discussions are based on observations resulting from our replication of the vocalic social referencing experiment, originally carried out in the Infant Studies Laboratory in Denver (Svejda, 1981). The replication itself proved to be a failure, for it did not generate much compatible data. However, an analysis of the procedures and the results reveals interesting facts about cultural and situational differences in the behavior of our subjects, both the mothers and their infants. These differences will be discussed from the point of view of cultural differences in response to strange situations in general, and to observation in a university laboratory situation in particular. Furthermore, a hypothesis concerning the relationship between maternal affective style and infant behavior characteristics will be suggested.

REPLICATION OF SOCIAL REFERENCING EXPERIMENT

In this paper only an outline of the origninal procedure will be given. For details, the readers are referred to Svejda (1981).

METHOD

Subjects

Thirty infants of 11 months and their mothers served as subjects. No attempt was made to control for birth order of the infants. The numbers of male and female infants were 14 and 16, respectively. The subjects were recruited with the assistance of the neonate section of a hospital in Sapporo. Contacts were made and consent was obtained by telephone using a list of infants born several months before. About three thousand Japanese Yen (c. 13 US Dollars) was paid to the subjects to cover transportation and small gifts. Upon arrival, the subjects were received in a separate room by two female assistants. The subject infant and, if accompanied, his/her siblings were entertained for about fifteen minutes before the mother left for another room to be trained to perform the experimental task. After the mother had reached the experimental criteria for performance, the infant was brought to the room by an assistant and the testing then began.

Porcedure

The behavior of the infants and their mothers was observed and recorded by VTR in the laboratory. Prior to the experiment proper, the mother alone was trained in a separate room away from the subject infant to perform one of three vocalic expressions (joy, anger and fear). Three trials were administered in which one of the three radio-controlled toys appeared and situated itself at the third point of an equi-lateral triangle including the mother and the infant. After the appearance of the toy had created some uncertainty and the infant had begun to approach the toy, the mother was signalled, through an ear-phone, to utter the assigned expression. The experimenter's target was the infant's response and the subsequent behaviors.

Since no discussion of these originally targeted measures will be attempted in this paper, no details will be given here. Readers interested in the vocalic social referencing

experiment itself can turn to Svejda (1981) or to Miyake, Campos and Kagan (1984) for a summary of results from a related study.

RESULTS

As has been mentioned, this replication proved to be a failure in the sense that it did not produce as much compatible data as was expected. The following analysis is from a view-point different from that of the original plan. It is believed that some lessons can be learned about cross-cultural replication of experiments in general, and cultural differences in mother-infant relationships and their responses to the laboratory situation.

In fifteen cases out of thirty, either the infant was too upset to be separated from the mother after entering into the laboratory or, having accomplished separation in the laboratory, the infant was too unstable to stay alone. Seven out of the remaining fifteen cases completed the first trial, but the infants were too upset to continue the experiment. Only four out of the last eight pairs managed to finish all three trials. Thus, the main cause for the failure was infant fussing and/or crying which forced the experiment to be terminated.

How about the performance level of the American subjects ? According to Svejda (1986), only a negligible number of Denver subject did not complete the experiment (8 out of 72) ; the number of subjects who could not begin the experiment because they could not be separated from their mothers was even smaller (1 out of 72). In fact, as this was not a problem in the original Svejda study, the issue was not even mentioned. Not until the replication was well underway did the issue became apparent to the researchers.

As will be recalled, the experimental procedure required that during the time when the mothers were being trained to utter an expression in one of the three affects, the infants had to be separated from the mothers so that the semantically meaningless utterance would not be heard by the infants. While this did not seem to have caused any major problem among Denver subjects, it was the main factor that led to the fussing and crying in the Japanese infants during the experiment. To the Japanese infants, the separation required by the procedure served as a stressful factor.

To further explore this hypothesis, five more mother-infant pairs were asked to visit the lab twice so that both the mothers and the infants had an additional chance to familiarize themselves with the assistants and the environment. However, observation reveals that the effect of separation was not removed by having two visits.

An additional stressor factor turned out to be the mothers' repsonse to the lab situation, especially to the task of producing affective expression by imitating a stranger. The frequent appearance of defense mechanisms aimed at reducing anxiety as was observed in many of them during the training session indicates the stressful nature of the situation. It is likely that in some cases the anxiety was in turn conveyed to the subject infants, perhaps inadvertently.

Although adequate evidence to confirm the above observation is not yet available, the following two considerations will help us in estimate the validity of this impression.

(1) Japanese mother-infant relationship. As compared with infants in the United States, for example, Japanese one-year-olds tend to respond to strange situations with fear, resulting in more proximity-seeking and/or maintaining, and more fussing and/or crying in

unfamiliar environments. This seems to be true, judging from several recent studies comparing Japanese infants with infants in other societies using the Ainsworth Strange Situation procedure (see Miyake et al., 1985 ; Lamb et al., 1985 ; Ujiie, 1986). The training session in the replication, in which the infant was separated from the mother for at least five minutes, and was attended to by a stranger, was a very demanding strange situation for the Sapporo subjects.

(2) The mothers' behavior in a laboratory situation. Again, as compared with what is understood to be the case in the United States, Japanese mothers tend to be tense and behave more anxiously in a lab situation. This has to be understood in view of the fact that the distance between the 'ordinary people' and 'the university' is still greater than the researchers are willing to admit. The physical environment of a university lab also works towards increasing this distance. The contrast is even greater in the case of the Denver laboratory, which is specially endowed with a relaxing, 'homy' atmosphere that is usually lacking in university laboratories.

Furthermore, an impression many Japanese researchers in mother-infant development will not fail to gain when visiting an American laboratory is the casualness with which the mothers behave. This can also be understood by referring to two unique Japanese concepts : (1) the concept of showing respect by physical and psychological tenseness and, (2) the uniqueness of the Japanese concept of the within/without, or private/public distinction (uchi/soto). It is not the intention of the author to argue whether the lack of casualness (that is, the tension observed in many Japanese mothers in a laboratory situation) is an expression of respect or not. Suffice it to say that at least it takes the Japanese mothers more time to relax and to behave more spontaneously in a laboratory situation.

Apart from these factors, relative infrequency of research involving behavioral observation of mothers and infants in a laboratory situation in Japan is another contributing factor. Unfamiliarity with similar occasions seems to make the Japanese mothers feel nervous when put into such a situation. That our subjects tend to consider the occasion as special can also be seen in the fact that they usually come to the laboratory with their 'Sunday best'.

In addition, if their infants fussed or cried during experiment, the Japanese mothers tend to feel obliged to take responsibility for it. And it was not unusual to find them apologize to the research assistants for "not being cooperative". This behavior of the mothers agrees with the common Japanese practice of the parent's assuming responsibility for their child's behavior.

Although more systematic and intensive observation will have to be conducted to enable us to make more precise and refined statements about the differences, the above impressions were also endorsed by some Western researchers.

MATERNAL AFFECTIVE STYLE AND INFANT MOOD IN A LABORATORY SITUATION

As one trial after another turned out to be either truncated or totally failed, we began to realize that some correlation seemed to exist between the degree of tenseness in the mother's behavior and the negative mood of the infant in the laboratory. Without changing the procedure for the subjects, it was decided that the training of the mothers

would be observed and recorded.

To further investigate the matter, the following indices were explored :

(a) Maternal variables : latency to imitative behavior, number of trials or total time needed until reaching performance criteria set by the trainer, number of 'defensive behavior' (e. g. unnatural giggling, laughing, covering of mouthnose area, shunning away from trainer, coughing, etc.), direction of gaze, naturalness of posture, voice, and relaxation in general.

(b) Infant variables : Presence of crying or extended fussing in separation, presence of crying or fussing upon entering observation room, ability in separating from the mother in observation room, presence or absence of spontaneous playing, number of trials completed, etc.

Preliminary analysis indicates that our hypothesis is supported and that further observation and analysis will be fruitful.

DISCUSSIONS

Emotional Communication in Long- and Short-Terms

By 11 months, an ordinary pair of mother and infant would have spent enough time together to develop a system of emotional communication. In a laboratory situation such as was mentioned above, concious or unconcious emission of signals or any other-than-usual signs from the mother (assuning the mother to be the more sensitive and the 'leader' of the two, and that the infant makes active use of emotional cues from the mother, as is propounded by social referencing theory), is likely to produce great effects on the infant, and indeed, on the dyadic interaction process. However, while positive correlation seems to be indicative of the operation of a sentive communicational system between the mother and the infant, negative correlation does not rule out the possibility of the operation of a secure and resilient system. The emotional communicational system and the system that operates in coping with stressful situation are to be clearly distinguished.

In view of the importance of temperamental disposition in early development, the possibility that the suggested correlation between maternal style of affective expression and infant's mood might have a biological base can not be ruled out. It has been shown that affective expressiveness is related to personality traits and physiological variables in pre-school children (cf. Buck, Miller and Caul, 1974 ; Buck, 1977). Further study of this issue in early infancy will not only enable us to clarify this point, but also shed light on the process of the development of mother-infant emotional communication.

Cross-Cultural Mother-Infant Interaction Study

In recent discussions of the validity of Ainsworth's Strange Situation as applied to infants in different societies, no systematic attempt has yet been paid to the issue of comparability of factors beyond the level of the standardized procedure. Thus, while the Strange Situation serves as a standardized procedure, the subjects' attitude towards being observed in a laboratory can differ in different societies ; the causes for the difference ranging from different familarity with such encounters to different interaction pattern between researchers and the subjects in different societies.

Judging from the fact that, regardless of whether we agree with the original

hypothesis in social referencing or not, the researcher's intention in replicating the experiment was to obtain as satisfactory a performance as could be obtained, it was impossible to argue that the replicating experiment was conducted without, or with inadequate, care. However, one possibility can not be ruled out : different perception of what constitutes "adequate" or "desirable" interaction pattern with the subjects might lead to different results. If this was the case, the difference or distortion will be a systematic one, and the eradication of it will require special efforts. In other words, if the researches are not guilty of being deliberately careless, the results we obtained high-light differences in perception or conceptualizaion on the part of the researchers involved, the understanding of which and the solution of problems arisen therefrom can be important for a better comprehension of the phenomenon under study.

Although we were forced into the consideration and the investigation of the issue, the accidental nature of the finding does not deminish its importance as a reminder to examine beyond what is given from the beginning and, to bring into light the foot of the searching light.

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